JOURNAL OF

THE GEOLOGICAL SOCIETY

Volume 158 2001

Chief Editor: Dr N. W. Rogers

Editors: Dr A. S. Cohen, Dr M. Cosca, Dr J. A. Crame, Dr R. England, Professor H. Fossen, Dr M. B. Fowler, Dr S. A. Gibson, Dr M. J. Hambrey, Dr J. A. Howell, Dr J. H. S. Macquaker, Dr A. J. Maltman, Dr J. M. McArthur, Dr D. Pirrie, Dr R. A. Strachan, Dr G. Stuart, Dr S. P. Turner, Dr J. Woodward, Dr M. J. Whitehouse.

Advisory Editors: Dr E. Buffetaut, Dr R. E. Bevins, Professor M. Brown, Dr P. A. Cawood, Dr M. A. Cooper, Dr J. C. W. Cope, Professor Y. Dilek, Professor R. Dingle, Dr M. H. Dodson, Professor D. Elliot, Professor K. A. Foland, Dr J. Francis, Professor F. T. Fürsich, Professor R. O. Greiling, Professor J. M. Hergt, Dr A. J. Hurford, Professor L. Jolivet, Dr S. J. Matthews, Professor D. A. Nieuwland, Dr R. J. Pankhurst, Professor R. Parrish, Professor J. Rose, Dr D. B. Snyder, Dr P. Stone, Professor C. J. Talbot, Professor T. H. Torsvik, Professor H. Weissert, Professor R. S. White, Professor G. M. Young.

> But if any human being earnestly desire to push on to new discoveries instead of just retaining and using the old; to win victories over Nature as a worker rather than over hostile critics as a disputant; to attain, in fact, clear and demonstrative knowledge instead of attractive and probable theory; we invite him as a true son of Science to join our ranks.
>
> [BACON, *Novum Organum, Prefatio.* 1620]

2001

THE GEOLOGICAL SOCIETY

BURLINGTON HOUSE

PICCADILLY

LONDON W1V 0JU

Journal published and distributed by GEOLOGICAL SOCIETY PUBLISHING HOUSE, Unit 7, Brassmill Enterprise Centre, Brassmill Lane, Bath BA1 3JN

Printed in The United Kingdom at HENRY LING LTD, The Dorset Press, Dorchester, Dorset DT1 1HD

© GEOLOGICAL SOCIETY OF LONDON 2001

Dates of issue of Volume 158

Part 1 (for January):	pages 1–192	4 January 2001
Part 2 (for March):	pages 193–400	28 February 2001
Part 3 (for May):	pages 401–576	26 April 2001
Part 4 (for July):	pages 577–736	25 June 2001
Part 5 (for September):	pages 737–844	17 October 2001
Part 6 (for November):	pages 845–1002	21 November 2001

CONTENTS

page

ALI, J. R. *See* THOMPSON, G. M.

AL-IMAM, A. *See* BREW, G.

AL-KINDI, S. A. *See* GOULTY, N. R.

ALLEN, M. B., ALSOP, G. I. & ZHEMCHUZHNIKOV, V. G. Dome and basin refolding and transpressive inversion along the Karatau Fault System, southern Kazakstan 83

ALSOP, G. I. *See* ALLEN, M. B.

ALVESTAD, E. *See* BERNDT, C.

ANDERSEN, T., ANDRESEN, A. & SYLVESTER, A. G. Nature and distribution of deep crustal reservoirs in the southwestern part of the Baltic Shield: evidence from Nd, Sr and Pb isotope data on late Sveconorwegian granites 253

ANDRESEN, A. *See* ANDERSEN, T.

APPEL, E. *See* NEUGEBAUER, J.

ARMSTRONG, H. A. & OWEN, A. W. Tectonic evolution of the paratectonic Caledonides of northern Britain 475

AZOR, A. *See* MARTÍNEZ POYATOS, D.

AZZARO, R., BARBANO, M. S., RIGANO, R. & VINCIGUERRA, S. Time seismicity patterns affecting local and regional fault systems in the Etna region: preliminary results from the period 1874–1913 561

BAILEY, R. J. Sequence stratigraphy and orbital forcing in Permian (Rotliegend) desert deposits: a discussion 785

BAKER, A. *See* FAIRCHILD, I. J.

BARAZANGI, M. *See* BREW, G.

BARAZANGI, M. *See* GOMEZ, F.

BARBANO, M. S. *See* AZZARO, R.

BARKHAM, S. *See* MAZZOLI, S.

BEERLING, D. J., LOMAZ, B. H., UPCHURCH, G. R. JR, NICHOLS, D. J., PILLMORE, C. L., HANDLEY, L. L. & SCRIMGEOUR, C. M. Evidence for the recovery of terrestrial ecosystems ahead of marine primary production following a biotic crisis at the Cretaceous–Tertiary boundary 737

BELPERIO, A. P. *See* MURRAY-WALLACE, C. V.

BERNDT, C., PLANKE, S., ALVESTAD, E., TSIKALAS, F. & RASMUSSEN, T. Seismic volcanostratigraphy of the Norwegian Margin: constraints on tectonomagmatic break-up processes 413

BETTLEY, R. M., FORTEY, R. A. & SIVETER, D. J. High-resolution correlation of Anglo-Welsh Middle to Upper Ordovician sequences and its relevance to international chronostratigraphy 937

BICKLE, M. J. *See* WHITE, N. M.

BIRD, D. K. *See* HEISTER, L. E.

BLENKINSOP, T. G. & TRELOAR, P. J. Tabular intrusion and folding of the late Archaean Murehwa granite, Zimbabwe, during regional shortening 653

BOCKHEIM, J. G. *See* RETALLACK, G. J.

BORSATO, A. *See* FAIRCHILD, I. J.

BOURMAN, R. P. *See* MURRAY-WALLACE, C. V.

BOYCE, A. J. *See* MILLAR, I. L.

BRABHAM, P. J. *See* WILLIAMS, G. D.

BRÄTZ, H. *See* ZEH, A.

BREW, G., LUPA, J., BARAZANGI, M., SAWAF, T., AL-IMAM, A. & ZAZA, T. Structure and tectonic development of the Ghab Basin and the Dead Sea Fault System, Syria 665

BREWER, T. S. *See* HAGGAS, S. L.

BROOKE, B. P. *See* MURRAY-WALLACE, C. V.

BROOKS, C. K. *See* HEISTER, L. E.

BROWN, D. & TRYGGVASON, A. Ascent mechanism of the Dzhabyk batholith, southern Urals: contraints from URSEIS reflection seismic profiling 881

BRUNTON, C. H. C. *See* KELLY, S. R. A.

BUCHAN, C., CUNNINGHAM, D., WINDLEY, B. F. & TOMURHUU, D. Structural and lithological characteristics of the Bayankhongor Ophiolite Zone, Central Mongolia 445

BUICK, I. S., MAAS, R. & GIBSON, R. Precise U–Pb titanite age constraints on the emplacement of the Bushveld Complex, South Africa 3

BURBANK, D. *See* WHITE, N. M.

BURNETT, D. J. & QUIRK, D. G. Turbidite provenance in the Lower Palaeozoic Manx Group, Isle of Man: implications for the tectonic setting of Eastern Avalonia 913

CANN, J. H. *See* MURRAY-WALLACE, C. V.
CANN, J. R., PRICHARD, H. M., MALPAS, J. G. & XENOPHONTOS, C. Oceanic inside corner detachments of the Limassol Forest area, Troodos ophiolite, Cyprus 757
CANTRILL, D. J. *See* FALCON-LANG, H. J.
CELLO, G. *See* MAZZOLI, S.
CHADWICK, B., CLAEYS, P. & SIMONSON, B. New evidence for a large Palaeoproterozoic impact: spherules in a dolomitic layer in the Ketilidian orogen, South Greenland 331
CHAMBERS, M. H. *See* TAYLOR, S. P.
CHARABE, M. *See* GOMEZ, F.
CHISHOLM, J. I. *See* EVANS, J. A.
CLAEYS, P. *See* CHADWICK, B.
CLIFF, R. A. *See* WHEELER, J.
COCKS, L. R. M. *Presidential Address:* Ordovician and Silurian global stratigraphy 197
COOK, C. A. *See* NUTMAN, A. P.
CORFIELD, R. I. *See* PEDERSEN, R. B.
CORFU, F. *See* DAHLGREN, S.
CUNNINGHAM, D. *See* BUCHAN, C.
DAHLGREN, S. & CORFU, F. Northward sediment transport from the Late Carboniferous Variscan Mountains: zircon evidence from the Olso Rift, Norway 29
DALLMEYER, R. D., STRACHAN, R. A., ROGERS, G., WATT, G. R. & FRIEND, C. R. L. Dating deformation and cooling in the Caledonian thrust nappes of north Sutherland, Scotland: insights from $^{40}Ar/^{39}Ar$ and Rb–Sr chronology 501
DARAWCHEH, R. *See* GOMEZ, F.
DARBYSHIRE, D. P. F. *See* FOWLER, M. B.
DARKAL, A. N. *See* GOMEZ, F.
DEBACKER, T. N., SINTUBIN, M. & VERNIERS, J. Large-scale slumping deduced from structural and sedimentary features in the Lower Palaeozoic Anglo-Brabant fold belt, Belgium 341
DICKINS, J. M. *See* KELLY, S. R. A.
D'LEMOS, R. S. *See* MILLER, B. V.
DOBSON, A. R. *See* GOULTY, N. R.
DOUBLEDAY, P. A. *See* KELLY, S. R. A.
DYPVIK, H. *See* HAGEN, E.
EATON, G. P. *See* WILLIAMS, G. D.
EBINGER, C. J. *See* KENEA, N. H.
EDITORIAL 1
EVANS, J. A., CHISHOLM, J. I. & LENG, M. J. How U–Pb detrital monazite ages contribute to the interpretation of the Pennine Basin infill 741
EVANS, K. R. *See* ROWELL, A. J.
FAIRCHILD, I. J., BAKER, A., BORSATO, A., FRISIA, S., HINTON, R. W., MCDERMOTT, F. & TOOTH, A. F. Annual to sub-annual resolution of multiple-trace-element trends in speleothems 831
FALCON-LANG, H. J., CANTRILL, D. J. & NICHOLS, G. J. Biodiversity and terrestrial ecology of a mid-Cretaceous, high-latitude floodplain, Alexander Island, Antarctica 709
FALLICK, A. E. *See* JAPPY, T. G.
FETTER, A. H. *See* ROWELL, A. J.
FORTEY, R. A. *See* BETTLEY, R. M.
FOWLER, M. B., HENNEY, P. J., DARBYSHIRE, D. P. F. & GREENWOOD, P. B. Petrogenesis of high Ba–Sr granites: the Rogart pluton, Sutherland 521
FRIEND, C. R. L. *See* DALLMEYER, R. D.
FRIEND, C. R. L. *See* ROGERS, G.
FRIEND, P. F., RAZA, S. M., GEEHAN, G. & SHEIKH, K. A. Intermediate-scale architectural features of the fluvial Chinji Formation (Miocene), Siwalik Group, northern Pakistan 163
FRISIA, S. *See* FAIRCHILD, I. J.
FURNES, H., MUEHLENBACHS, K., TUMYR, O., TORSVIK, T. & XENOPHONTOS, C. Biogenic alteration of volcanic glass from the Troodos ophiolite, Cyprus 75
GALE, A. S. *See* JARVIS, I.
GALLOIS, R. W. *See* TAYLOR, S. P.

GAMBINI, R. *See* MAZZOLI, S.
GEEHAN, G. *See* FRIEND, P. F.
GESSNER, K., RING, U., PASSCHIER, C. W. & GÜNGÖR, T. How to resist subduction: evidence for large-scale out-of-sequence thrusting during Eocene collision in western Turkey 769
GIBBONS, W. *See* MORENO, T.
GIBSON, R. *See* BUICK, I. S.
GLASSER, N. F. & HAMBREY, M. J. Styles of sedimentation beneath Svalbard valley glaciers under changing dynamic and thermal regimes 697
GOMEZ, F., MEGHRAOUI, M., DARKAL, A. N., SBEINATI, R., DARAWCHEH, R., TABET, C., KHAWLIE, M., CHARABE, M., KHAIR, K. & BARAZANGI, M. Coseismic displacements along the Serghaya Fault: an active branch of the Dead Sea Fault System in Syria and Lebanon 405
GOULTY, N. R., DOBSON, A. R., JONES, G. D., AL-KINDI, S. A. & HOLLAND, J. G. Gravity evidence for diapiric ascent of the Northern Arran Granite 869
GREEN, D. H. *See* NUTMAN, A. P.
GREEN, P. F., THOMSON, K. & HUDSON, J. D. Recognition of tectonic events in undeformed regions; contrasting results from the Midland Platform and East Midlands Shelf, Central England 59
GREENWOOD, P. B. *See* FOWLER, M. B.
GREINER, B. *See* NEUGEBAUER, J.
GRIFFIN, T. J. *See* PAGE, R. W.
GRIFFIN, T. J. *See* SHEPPARD, S.
GÜNGÖR, T. *See* GESSNER, K.
HAGEN, E., KELLEY, S. P., DYPVIK, H., NILSEN, O. & KJØLHAMAR, B. Direct dating of authigenic K-feldspar overgrowths from the Kilombero Rift of Tanzania 801
HAGGAS, S. L., BREWER, T. S., HARVEY, P. K. & ITURRINO, G. I. Relocationg and orientating cores by the integration of electrical and optical images: a case study from Ocean Drilling Program Hole 735B 615
HAMBREY, M. J. *See* GLASSER, N. F.
HAMILTON, M. A. *See* RAINBIRD, R. H.
HAN, J. *See* ZHANG, X.
HANDLEY, L. L. *See* BEERLING, D. J.
HARRIS, C. *See* WILLIAMS, G. D.
HARRIS, N. *See* PRINCE, C.
HARTLEY, A. J. & OTAVA, J. Sediment provenance and dispersal in a deep marine foreland basin: the Lower Carboniferous Culm Basin, Czech Republic 137
HARVEY, P. K. *See* HAGGAS, S. L.
HASZELDINE, R. S. *See* WILKINSON, M.
HAWKESWORTH, C. *See* KIRSTEIN, L. A.
HEISTER, L. E., O'DAY, P. A., BROOKS, C. K., NEUHOFF, P. S. & BIRD, D. K. Pyroclastic deposits within the East Greenland Tertiary flood basalts 269
HENNEY, P. J. *See* FOWLER, M. B.
HESSAMI, K., KOYI, H. A., TALBOT, C. J., TABASI, H. & SHABANIAN, E. Progressive unconformities within an evolving foreland fold–thrust belt, Zagros Mountains 969
HIGGINS, A. K., SMITH, M. P., SOPER, N. J., LESLIE, A. G., RASMUSSEN, J. A. & SØNDERHOLM, M. The Neoproterzoic Hekla Sund Basin, eastern North Greenland: a pre-Iapetan extensional sequence thrust across its rift shoulders during the Caledonian orogeny 487
HINTON, R. W. *See* FAIRCHILD, I. J.
HOLDSWORTH, R. E. *See* NUTMAN, A. P.
HOLDSWORTH, R. E. *See* STEWART, M.
HOLLAND, J. G. *See* GOULTY, N. R.
HOWE, J. A., STOKER, M. S. & WOOLFE, K. J. Deep-marine seabed erosion and gravel lags in the northwestern Rockall Trough, North Atlantic Ocean 427
HUDSON, J. D. *See* GREEN, P. F.
HURST, A. & MORTON, A. C. Generic relationships in the mineral–chemical stratigraphy of turbidite sandstones 410
ITURRINO, G. I. *See* HAGGAS, S. L.
JAFFEY, N. & ROBERTSON, A. H. F. New sedimentological and structural data from the Ecemiş Fault Zone, southern Turkey: implications for its timing and offset and the Cenozoic tectonic escape of Anatolia 367
JAFFEY, N. *See* SINCLAIR, H. D.

Jappy, T. G., Leake, B. E. & Fallick, A. E. Relationships between hornblende K–Ar ages, chemical composition and hydrogen isotopes, Connemara, western Ireland: evidence for a massive extint hydrothermal system 843
Jarvis, I., Murphy, A. M. & Gale, A. S. Geochemistry of pelagic and hemipelagic carbonates: criteria for identifying systems tracts and sea-level change 685
Jolley, D. W. *See* Thompson, G. M.
Jones, B., Renaut, R. W. & Rosen, M. R. Biogenicity of gold- and silver-bearing siliceous sinters forming in hot (75 °C) anaerobic spring-waters of Champagne Pool, Waiotapu, North Island, New Zealand 895
Jones, G. D. *See* Goulty, N. R.
Kelley, S. *See* Kirstein, L. A.
Kelley, S. P. *See* Hagen, E.
Kely, S. R. A., Doubleday, P. A., Brunton, C. H. C., Dickins, J. M., Sevastopulo, G. D. & Kenea, N. H., Ebinger, C. J. & Rex, D. C. Late Oligocene volcanism and extension in the southern Red Sea Hills, Sudan 285
Khair, K. *See* Gomez, F.
Khawlie, M. *See* Gomez, F.
Kinny, P. D. *See* Rogers, G.
Kirstein, L. A., Kelley, S., Hawkesworth, C., Turner, S., Mantovani, M. & Wijbrans, J. Protracted felsic magmatic activity associated with the opening of the South Atlantic 583
Kjolhamar, B. *See* Hagen, E.
Knott, S. D. Gravity-driven crustal shortening in failed rifts 193
Koyi, H. A. *See* Hessami, K.
Krull, E. S. *See* Retallack, G. J.
Leake, B. E. *See* Jappy, T. G.
Leeder, M. R. & Mack, G. H. Lateral erosion ('toe cutting') of alluvial fans by axial rivers: implications for basin analysis and architecture 885
Leng, M. J. *See* Evans, J. A.
Leslie, A. G. *See* Higgins, A. K.
Li, Y. *See* Zhang, X.
Little, T. A. & Mortimer, N. Rotation of ductile fabrics across the Alpine Fault and Cenozoic bending of the New Zealand Orocline 745
Lomax, B. H. *See* Beerling, D. J.
Lunar, R. *See* Moreno, T.
Lupa, J. *See* Brew, G.
Maas, R. *See* Buick, I. S.
Mack, G. H. *See* Leeder, M. R.
Maithani, A. *See* White, N. M.
Malpas, J. G. *See* Cann, J. R.
Mantovani, M. *See* Kirstein, L. A.
Martin, M. W. *See* Stewart, M.
Martínez Poyatos, D., Nieto, F., Azor, A. & Simancas, J. F. Relationships between very low-grade metamorphism and tectonic deformation: examples from the southern Central Iberian Zone (Iberian Massif, Variscan Belt) 953
Mattioni, L. *See* Mazzoli, S.
Mazzoli, S., Barkham, S., Cello, G., Gambini, R., Mattioni, L., Shiner, P. & Tondi, E. Reconstruction of continental margin architecture deformed in contraction of the Lagonegro Basin, southern Appenines, Italy 309
McDermott, F. *See* Fairchild, I. J.
Meghraoui, M. *See* Gomez, F.
Millar, I. L., Willan, R. C. R., Wareham, C. D. & Boyce, A. J. The role of crustal and mantle sources in the genesis of granitoids of the Antarctic Peninsula and adjacent crustal blocks 855
Millar, I. L. *See* Zeh, A.
Miller, B. V., Samson, S. D. & D'Lemos, R. S. U–Pb geochronological constraints on the timing of plutonism, volcanism and sedimentation, Jersey, Channel Island, UK 243
Milliken, K. *See* Wilkinson, M.
Moreno, T., Gibbons, W., Prichard, H. M. & Lunar, R. Platiniferous chromitite and the tectonic setting of ultramafic rocks in Cabo Ortegal, NW Spain 601

MORLEY, C. K. Combined escape tectonics and subduction rollback–back arc extension: a model for the Tertiary rift basins in Thailand, Malaysia and Laos 461
MORTIMER, N. *See* LITTLE, T. A.
MORTON, A. C. *See* HURST, A.
MUEHLENBACHS, K. *See* FURNES, H.
MURPHY, A. M. *See* JARVIS, I.
MURRAY-WALLACE, C. V., BROOKE, B. P., CANN, J. H., BELPERIO, A. P. & BOURMAN, R. P. Whole-rock aminostratigraphy of the Coorong Coastal Plain, South Australia: a 1 million year record of sea-level highstands 111
NAJMAN, Y. M. R. *See* WHITE, N. M.
NEUGEBAUER, J., GREINER, B. & APPEL, E. Kinematics of the Alpine–West Carpathian orogen and palaeogeographic implications 97
NEUHOFF, P. S. *See* HEISTER, L. E.
NEWELL, A. J. Construction of a Palaeogene tide-dominated shelf: influence of Top Chalk topography and sediment supply (Wessex Basin, UK) 379
NICHOLS, D. J. *See* BEERLING, D. J.
NICHOLS, G. J. *See* FALCON-LANG, H. J.
NIETO, F. *See* MARTÍNEZ POYATOS, D.
NILSEN, O. *See* HAGEN, E.
NUTMAN, A. P., GREEN, D. H., COOK, C. A., STYLES, M. T. & HOLDSWORTH, R. E. SHRIMP U–Pb zircon dating of the exhumation of the Lizard Peridotite and its emplacement over crustal rocks: constraints for tectonic models 809
O'DAY, P. A. *See* HEISTER, L. E.
OTAVA, J. *See* HARTLEY, A. J.
OWEN, A. W. *See* ARMSTRONG, H. A.
PAGE, R. W., GRIFFIN, T. J., TYLER, I. M. & SHEPPARD, S. Geochronological constraints on tectonic models for Australian Palaeoproterozoic high-K granites 535
PAGE, R. W. *See* SHEPPARD, S.
PARRISH, R. R. *See* WHITE, N. M.
PASSCHIER, C. W. *See* GESSNER, K.
PATERSON, B. A. *See* ROGERS, G.
PEDERSEN, R. B., SEARLE, M. P. & CORFIELD, R. I. U–Pb zircon ages from the Spontang Ophiolite, Ladakh Himalaya 513
PILLMORE, C. L. *See* BEERLING, D. J.
PLANKE, S. *See* BERNDT, C.
PRESTON, R. J. Composite minor instrusions as windows into subvolcanic magma reservoir processes: mineralogical and geochemical evidence for complex magmatic plumbing systems in the British Tertiary Igneous Province 47
PRICHARD, H. M. *See* CANN, J. R.
PRICHARD, H. M. *See* MORENO, T.
PRINCE, C., HARRIS, N. & VANCE, D. Fluid-enhanced melting during prograde metamorphism 233
QUIRK, D. G. *See* BURNETT, D. J.
RAINBIRD, R. H., HAMILTON, M. A. & YOUNG, G. M. Detrital zircon geochronology and provenance of the Torridonian, NW Scotland 15
RASMUSSEN, J. A. *See* HIGGINS, A. K.
RASMUSSEN, T. *See* BERNDT, C.
RASPINI, A. Stacking pattern of cyclic carbonate platform strata: Lower Cretaceous of southern Apennines, Italy 353
RAZA, S. M. *See* FRIEND, P. F.
REDDY, S. M. *See* WHEELER, J.
REHNSTRÖM, E. F. *See* TORSVIK, T. H.
RENAUT, R. W. *See* JONES, B.
RETALLACK, G. J., KRULL, E. S. & BOCKHEIM, J. G. New grounds for reassessing palaeoclimate of the Sirius Group, Antarctica 925
REX, D. C. *See* KENEA, N. H.
REX, D. C. *See* STEPHENSON, B. J.

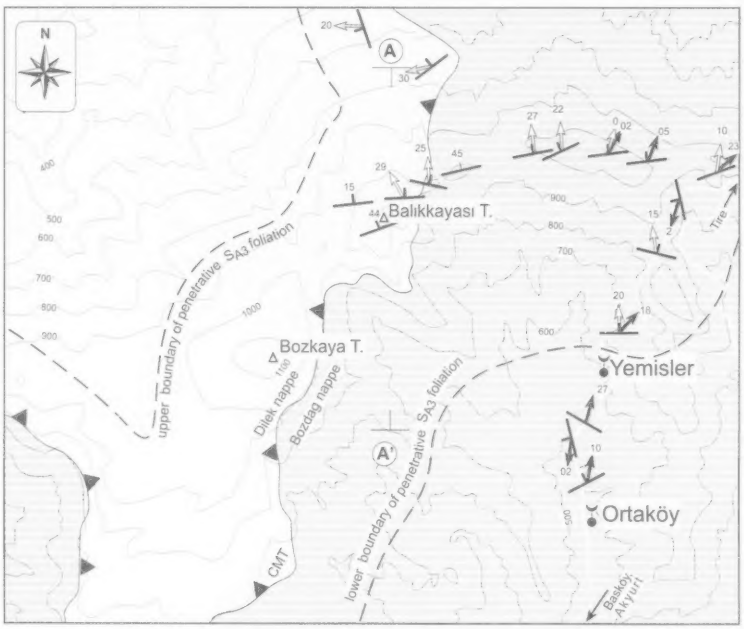
RIGANO, R. *See* AZZARO, R.
RING, U. *See* GESSNER, K.
ROBERTSON, A. H. F. *See* JAFFEY, N.
ROGERS, G. *See* DALLMERY, R. D.
ROGERS, G., KINNY, P. D., STRACHAN, R. A., FRIEND, C. R. L. & PATERSON, B. A. U–Pb geochronology of the Fort Augustus granite gneiss: constraints on the timing of Neoproterozoic and Palaeozoic tectonthermal events in the NW Highlands of Scotland 7
ROSEN, M. R. *See* JONES, B.
ROWELL, A. J., VAN SCHMUS, W. R., STOREY, B. C., FETTER, A. H. & EVANS, K. R. Latest Neoproterozoic to Mid-Cambrian age for the main deformation phases of the Transantarctic Mountains: new stratigraphic and isotopic constraints from the Pensacola Mountains, Antarctica 295
SAMSON, S. D. *See* MILLER, B. V.
SAWAF, T. *See* BREW, G.
SBEINATI, R. *See* GOMEZ, F.
SCRIMGEOUR, C. M. *See* BEERLING, D. J.
SEARLE, M. P. *See* PEDERSEN, R. B.
SEARLE, M. P. *See* STEPHENSON, B. J.
SELLWOOD, B. W. *See* TAYLOR, S. P.
SEVASTOPULO, G. D. *See* KELLY, S. R. A.
SHABANIAN, E. *See* HESSAMI, K.
SHEIKH, K. A. *See* FRIEND, P. F.
SHEPPARD, S., GRIFFIN, T. J., TYLER, I. M. & PAGE, R. W. High- and low-K granites and adakites at a Palaeoproterozoic plate boundary in northwestern Australia 547
SHEPPARD, S. *See* PAGE, R. W.
SHERLOCK, S. C. Two-stage erosion and deposition in a continental margin setting: a $^{40}Ar/^{39}Ar$ laserprobe study of offshore detrital white micas in the Norwegian Sea 793
SHINER, P. *See* MAZZOLI, S.
SHU, D. *See* ZHANG, X.
SIMANCAS, J. F. *See* MARTÍNEZ POYATOS, D.
SIMONSON, B. *See* CHADWICK, B.
SINCLAIR, H. D. & JAFFEY, N. Sedimentology of the Indus Group, Ladakh, northern India: implications for timing of initiation of the palaeo-Indus River 151
SINTUBIN, M. *See* DEBACKER, T. N.
SIVETER, D. J. *See* BETTLEY, R. M.
SMALLWOOD, J. R., TOWNS, M. J. & WHITE, R. S. The structure of the Faeroe–Shetland Trough from integrated deep seismic and potential field modelling 409
SMITH, M. P. *See* HIGGINS, A. K.
SOCIETY AWARDS FOR 2001 577
SØNDERHOLM, M. *See* HIGGINS, A. K.
SONG, X. *See* THOMPSON, G. M.
SOPER, N. J. *See* HIGGINS, A. K.
STEPHENSON, B. J., SEARLE, M. P., WATERS, D. J. & REX, D. C. Structure of the Main Central Thrust zone and extrusion of the High Himalayan deep crustal wedge, Kishtwar–Zanskar Himalaya 637
STEWART, M., STRACHAN, R. A., MARTIN, M. W. & HOLDSWORTH, R. E. Constraints on early sinistral displacements along the Great Glen Fault Zone, Scotland: structural setting, U-Pb geochronology and emplacement of the syn-tectonic Clunes tonalite 821
STOKER, M. S. *See* HOWE, J. A.
STOREY, B. C. *See* ROWELL, A. J.
STRACHAN, R. A. *See* DALLMEYER, R. D.
STRACHAN, R. A. *See* ROGERS, G.
STRACHAN, R. A. *See* STEWART, M.
STYLES, M. T. *See* NUTMAN, A. P.
SYLVESTER, A. G. *See* ANDERSEN, T.
TABASI, H. *See* HESSAMI, K.
TABET, C. *See* GOMEZ, F.
TALBOT, C. J. *See* HESSAMI, K.

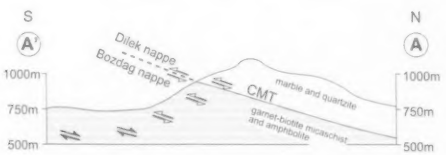
TAYLOR, P. D. First Carboniferous and ?Permian marine macrofaunas from Antarctica and their tectonic implications 219
TAYLOR, P. D. *See* KELLY, S. R. A.
TAYLOR, S. P., SELLWOOD, B. W., GALLOIS, R. W. & CHAMBERS, M. H. A sequence stratigraphy of the Kimmeridgian and Bolonian stages (late Jurassic): Wessex-Weald Basin, southern England 179
THOMPSON, G. M., ALI, J. R., SONG, X. & JOLLEY, D. W. Emeishan Basalts, SW China: reappraisal of the formation's type area stratigraphy and a discussion of its significance as a large igneous province 593
THOMSON, K. *See* GREEN, P. F.
TOMURHUU, D. *See* BUCHAN, C.
TONDI, E. *See* MAZZOLI, S.
TOOTH, A. F. *See* FAIRCHILD, I. J.
TORSVIK, T. H. & REHNSTRÖM, E. F. Cambrian palaeomagnetic data from Baltica: implications for true polar wander and Cambrian palaeogeography 321
TORSVIK, T. *See* FURNES, H.
TOWNS, M. J. *See* SMALLWOOD, J. R.
TRELOAR, P. J. *See* BLENKINSOP, T. G.
TRUDE, K. J. & WILKINSON, J. J. A mineralogical and fluid inclusion study of the Harberton Bridge Fe–Zn–Pb deposit, County Kildare, Ireland 37
TRYGGVASON, A. *See* BROWN, D.
TSIKALAS, F. *See* BERNDT, C.
TUMYR, O. *See* FURNES, H.
TURNER, S. *See* KIRSTEIN, L. A.
TYLER, I. M. *See* PAGE, R. W.
TYLER, I. M. *See* SHEPPARD, S.
UPCHURCH, G. R. JR. *See* BEERLING, D. J.
VAN SCHMUS, W. R. *See* ROWELL, A. J.
VANCE, D. *See* PRINCE, C.
VANSTONE, S. D. *See* WRIGHT, V. P.
VERNIERS, J. *See* DEBACKER, T. N.
VINCIGUERRA, S. *See* AZZARO, R.
WAREHAM, C. D. *See* MILLAR, I. L.
WATERS, D. J. *See* STEPHENSON, B. J.
WATT, G. R. *See* DALLMEYER, R. D.
WHEELER, J., REDDY, S. M. & CLIFF, R. A. Kinematic linkage between internal zone extension and shortening in more external unites in the NW Alps 439
WHITE, N. M., PARRISH, R. R., BICKLE, M. J., NAJMAN, Y. M. R., BURBANK, D. & MAITHANI, A. Metamorphism and exhumation of the NW Himalaya constrained by U–Th–Pb analysis of detrital monazite grains from early foreland basin sediments 625
WHITE, R. S. *See* SMALLWOOD, J. R.
WIJBRANS, J. *See* KIRSTEIN, L. A.
WILKINSON, J. J. *See* TRUDE, K. J.
WILKINSON, M., MILLIKEN, K. & HASZELDINE, R. S. Systematic destruction of K-feldspar in deeply buried rift and passive margin sandstones 675
WILLAN, R. C. R. *See* MILLAR, I. L.
WILLIAMS, G. D., BRABHAM, P. J., EATON, G. P. & HARRIS, C. Late Devension glaciotectonic deformation at St Bees, Cumbria: a critical wedge model 125
WILLIAMS, I. S. *See* ZEH, A.
WINDLEY, B. F. *See* BUCHAN, C.
WOOLFE, K. J. *See* HOWE, J. A.
WRIGHT, V. P. & VANSTONE, S. D. Onset of Late Palaeozoic glacio-eustasy and the evolving climates of low latitude areas: a synthesis of current understanding 579
XENOPHONTOS, C. *See* CANN, J. R.
XENOPHONTOS, C. *See* FURNES, H.
YOUNG, G. M. *See* RAINBIRD, R. H.
ZAZA, T. *See* BREW, G.

ZEH, A., BRÄTZ, H., MILLAR, I. L. & WILLIAMS, I. S. A combined zircon SHRIMP and Sm–Nd isotope study on high-grade paragneisses from the Mid-German Crystalline Rise: evidence for northern Gondwanan and Grenvillian provenance 983
ZHANG, X., SHU, D., LI, Y. & HAN, J. New sites of Chengjiang fossils: crucial windows of Cambrian explosion 211
ZHEMCHUZHNIKOV, V. G. *See* ALLEN, M. B.

ERRATUM

158, p. 779 (Gessner *et al.*). An incorrect version of Fig. 12 was published. The correct version is printed below.





D_{PA} asymmetric fabric elements: shear-bands (biotite)
D_{A3} asymmetric fabric elements: shear-bands (chlorite, muscovite) asymmetric folds
strike and dip of foliation
plunge direction and angle of L_{PA}
plunge direction and angle of L_{A2}
plunge direction and angle of L_{A3}
road

0 500 1000 m

Referees for papers over the last 12 months
The following are thanked for their reports on scripts submitted for publication in the *Journal*.

Allen, M.
Allmendinger, R. W.
Alsop, G.
Armstrong, H. A.
Arnaud, N.
Ashworth, J. R.
Atkinson, T.
Austin, W. E. N.
Barber, A. J.
Bar-Matthews, M.
Barrett, P.
Bartley, J.
Basthwaite, R.
Berggren, W.
Bingen, B.
Bininda-Emonds, O.
Bleeker, W.
Bluck, B. J.
Brasier, M.
Brinkhuis, H.
Broecker, M.
Brown, D.
Burg, J. P.
Butler, R. W. H.
Callomon, J. H.
Cartwright, J.
Chadwick, A.
Chisetti, F. C.
Church, K.
Clark, A. H.
Cliff, R. A.
Clift, P.
Collier, R.
Collins, A.
Cooper, M.
Corfield, R. I.
Couples, G.
Cowie, P.
Cox, B. M.
Craw, D.
Creber, G.
Cruden, A.
Curtis, M.
Dahl, P.
Darbyshire, F.
Davies, D.
Davies, S.
De St Blanquat, M.
D'Lemos, R. S.
Dore, A.
Downes, H.
Droop, G.
Eagles, G.
Ebinger, C.
Elders, C.
Ellam, R.
Eyal, Y.
Faerseth, R. B.
Fenton, J.
Fergusson, C.
Fettes, D. J.
Flowerdew, M. J.
Foden, J.
Foland, K. A.
Ford, M.
Fowler, M. B.
Franke, W.
Freeman, S.
Friend, C.
Fry, N.
Gale, A. S.
Garzanti, E.
Gasparon, M.
Gastaldo, R. A.
Gayer, R.
George, G.
Gibbons, W.
Gil Ibarguchi, J.
Gize, A.
Glasser, N.
Gohl, K.
Gomez, F.
Goodge, J.
Graseman, B.
Grasso, M.
Gudmundsson, A.
Hall, C.
Hallam, A.
Hamilton, M.
Hanmer, S.
Harper, D. A. T.
Harries, P. J.
Harris, A. L.
Harris, N. B. W.
Hartley, A. J.
Heath, M.
Helmstaedt, H.
Hemsley, A. R.
Herrington, R. J.
Hesthammer, J.
Higgins, A. K.
Highton, A. J.
Hildreth, W.
Houchen, M.
Huang, K.
Hudleston, P.
Humlum, O.
Hurford, A.
Izatt, C.
Jarvis, I.
Jenkyns, H.
Jokat, W.
Jones, G.
Kelley, S. P.
Kelling, G.
Kendall, C. G. St. C.
Kerr, A. C.
Killeen, P. G.
Kirstein, L.
Kissel, C.
Klepeis, K.
Klinger, Y.
Knox, R. O'B.
Krabbendam, M.
Labaume, P.
Lamb, M.
Larter, R.
Leat, P.
Lee, J. K. W.
Lips, A.
Lisle, R.
Mac Niocaill, C.
MacLeod, N.
Manby, G. M.
Marsh, G.
Marshall, J.
Marshall, J. D.
Mascle, G.
Masson, D. G.
Mather, A.
Matte, P.
McCaffrey, K. J. W.
McCaffrey, W.
McDermott, F.
McDonald, I.
McKelvey, B.
Menzies, M.
Millar, I.
Mitchell, S.
Mohriak, W.
Monié, P.
Moorbath, S.
Morad, S.
Morgans-Bell, M.
Morris, A.
Morse, J. W.
Mortimore, R. N.
Mountney, N. P.
Muir, R. J.
Mussachio, G.
Noble, S.
O'Cofaigh, C.
Oliver, G.
Oncken, O.
Palmer, M. R.
Parkinson, I.
Parnell, J.
Parson, L. M.
Paterson, S.
Paul, C. R. C.
Pearson, P.
Peate, D. W.
Pezard, P.
Phillips, E.
Pirrie, D.
Platt, J. P.
Poblet, J.
Poole, I.
Prior, D. J.
Rattenbury, M.
Read, J. F.
Redfield, T.
Renne, P.
Rice, C.
Riding, J. B.
Rigby, S.
Ring, U.
Roberts, D.
Robertson, A. H. F.
Robinson, I.
Rochette, P.
Rollin, K.
Rollinson, H. R.
Romer, R.
Russell, M.
Saunders, A.
Schager, W.
Schaltegger, U.
Schultz, R.
Scrutton, R. A.
Searle, M. P.
Shail, R. K.
Shields, G.
Simmon, S.
Skogsied, J.
Smellie, J. L.
Smith, A. G.
Smith, M.
Steer, D.
Stemmerik, L.
Stephens, E.
Stern, R.
Stewart, M.
Stewart, S.
Stow, D. A. V.
Surlyk, F.
Taylor, G.
Ten Brink, U.
Teyssier, C.
Thomas, M.
Thomson, R. N.
Treloar, P. J.
Tucholke, B.
Turner, J.
Underwood, M.
Upchurch, P.
Upton, P.
Van Couvering, J.
van der Beek, P.
Van der Voo, R.
Vance, D.
Vielzeuf, D.
von Raumer, J.
Wakabayashi, J.
Watterson, J.
Watts, A. B.
Webby, B. C.
Whalley, B.
Whitmarsh, R.
Whittington, R. J.
Wignall, P.
Wood, J.
Yanko-Hombach, V.
Zeck, H. P.
Zellmer, G.
Zuffa, G. G.